

ABSTRACT

The present invention system and method facilitates efficient and relatively even distribution of illumination throughout a display screen. The system and method should also facilitate clearer presentation of images, size reductions and conservation of limited power resources in handheld computers. In one embodiment of the present invention, a display illumination distribution system includes a light pipe, a lens, a wave guide array and a light source. The light source provides light waves that are directed along the wave guide array to the lens which directs the light waves into the light pipe. The light pipe conveys the light to the display and provides illumination. The routing of light through the wave guide array confines the light waves to a wave guide and reduces the number of light waves that miss the light pipe. In one embodiment of the present invention the interior walls of each wave guide include a highly reflective material that reflects light waves down the length of the wave guide with minimal light loss due to absorption. In one embodiment of the present invention, the display illumination distribution system and method directs visible light waves through a wave guide array to multiple points along the edge of the light pipe that illuminates the display and provides more effective distribution of light into the light pipe.